

**REMARKS**

In the present Amendment, claim 1 has been amended to recite that the organic solvent or solvents having a boiling point of not less than 150°C and a dipole moment of not less than 3.50 debye are selected from N-methylpyrrolidone, N,N-dimethylacetamide and dimethylsulfoxide. Section 112 support for this amendment may be found, for example, in the first full paragraph on page 11 and in Examples 5-7 of the present specification.

New, independent claim 3 has been added. This claim is similar to original claim 1, but it specifies that the organic solvent or solvents having a boiling point of not less than 150°C and a dipole moment of not less than 3.50 debye are included only in the recited “first” layer, and not in the “second” layer. Section 112 support for claim 3 may be found, for example, in original claims 1 and 2, and at page 50, line 14 to page 54, line 10 of the specification. See also the paragraph bridging pages 54 and 55 of the specification.

Dependent claim 4 is new, as well. Claim 4 depends from claim 2, and recites that the “at least one organic solvent” is selected from N-methylpyrrolidone, N,N-dimethylacetamide and dimethylsulfoxide. Support for claim 4 is the same as support for the amendment to claim 1.

No new matter is added and entry of the Amendment is respectfully requested.

Upon entry of the Amendment, claims 1-4 will be pending.

In Paragraph No. 5 of the Action, claims 1 and 2 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Lewis (6,484,637), Verschueren et al (6,340,815), Yokoya et al (5,955,238), Shimazu et al (WO 99/67097), and Nakamura et al (EP 1120246).

Applicant submits that this rejection should be withdrawn because Lewis '637, Verschueren et al '815, Yokoya et al '238, Shimazu et al '097, and Nakamura et al '246 do not disclose or render obvious the lithographic printing plate precursor of the present invention.

As recited in independent claim 1, the present invention relates to a lithographic printing plate precursor. The printing plate precursor includes a hydrophilic support. A first layer including a first resin that is water-insoluble and alkali-soluble is provided on the support, and a second layer comprising a second resin that is water-insoluble and alkali-soluble is also provided on the support, in this order. A light-to-heat converting agent is incorporated into at least one of the first layer and second layer. The printing plate precursor additionally includes an organic solvent or solvents having a boiling point of not less than 150°C and a dipole moment of not less than 3.50 debye. The solvent(s) are selected from N-methylpyrrolidone, N,N-dimethylacetamide and dimethylsulfoxide, and are employed in an amount of from 0.5 to 5% by weight based on the total dry weight of the first layer and second layer. See claim 1.

The Examiner states that all of the above cited references teach lithographic printing plates comprising two layers which appear to meet the present claim limitations. Per the Examiner, at least one of the layers comprises a light-to-heat conversion agent and a solvent ( $\gamma$ -butyrolactone) as presently claimed.

**The Present Claims Are Patentable Over Lewis '637**

Lewis '637 discloses lithographic printing plate constructions including imaging layers having dispersed therein a radiation-scattering material and a radiation-absorbing material, both of which cooperate to increase the overall absorption of radiation in that layer. See Lewis' s Abstract. Referring to Fig. 1 of Lewis, Lewis's construction typically includes a substrate 100

which may be, for example, aluminum; a first layer 102, which may be a polymer or a metal sheet; an imaging layer 104 which includes a radiation-scattering material and a radiation-absorbing material, both dispersed in a polymeric material; and a surface layer 106.

It is not entirely clear how the Examiner believes that the first layer and second layer recited in present claim 1 correspond to the layers of Lewis, respectively. Presumably, Lewis's imaging layer 104 corresponds to either the first layer or second layer recited in present claim 1, since this is the layer of Lewis which includes, *inter alia*, a radiation-absorbing material. Applicant assumes that the Examiner is analogizing the radiation-absorbing material of Lewis to the light-heat converting agent recited in present claim 1.

Applicant does not see anything in Lewis which requires that any of Lewis's layers contain at least one organic solvent meeting the requirements as recited for the organic solvent in present claim 1. Applicant does not see any disclosure in Lewis of  $\gamma$ -butyrolactone, either in the broad description or in the examples, contrary to the Examiner's indication. Lewis discloses that the imaging layer 104 is generally formed by casting from a solvent, see Lewis at col. 7, line 61, but there is no disclosure or discussion of particular solvents to be employed. And while not necessary to distinguish Lewis, the amendment to claim 1 specifies that the solvent(s) having a boiling point of not less than 150°C and a dipole moment of not less than 3.50 debye are selected from N-methylpyrrolidone, N,N-dimethylacetamide and dimethylsulfoxide.

In view of these distinctions, Applicant submits that the present claims are patentable over Lewis '637. Lewis '637 does not disclose or render obvious the lithographic printing plate precursor of the present invention.

**The Present Claims Are Patentable Over Verschueren et al '815**

Verschueren et al '815 discloses a heat mode imaging element for making a lithographic printing plate having on a lithographic base with a hydrophilic surface a first layer including a polymer, soluble in an aqueous alkaline solution, and a top layer on the same side of the lithographic base as the first layer which top layer is IR-sensitive and impenetrable for an alkaline developer. The first layer and the top layer may be one and the same layer. See Verschueren et al's Abstract. The so-called "first layer" of Verschueren et al is soluble in an aqueous alkaline developing solution. See Verschueren et al at col. 5, lines 50-55.

With regard to the top layer of Verschueren et al, it appears to Applicant that this layer would not satisfy the requirement of the present claims that the second layer be water-insoluble and alkali-soluble. The top layer of Verschueren has a difference in the capacity of being penetrated and/or solubilized by an aqueous alkaline solution, generated upon image-wise exposure. See Verschueren et al at col. 5, lines 40-43.

In a second embodiment of Verschueren et al, the first layer and the second layer are the same. See Verschueren et al at col. 7, lines 47-48. Applicant does not believe this embodiment of Verschueren et al would satisfy the requirement of present claim 1, which calls for both a first layer and a second layer.

Applicant does not see in Verschueren et al '815 any disclosure of a solvent meeting the specific requirements recited in present claim 1. Further, Applicant does not see in Verschueren et al '815 any discussion of the particular solvents employed in the respective layers, let alone any discussion of  $\gamma$ -butyrolactone referred to by the Examiner.

For these reasons, Applicant submits that claims 1-4 are patentable over Verschueren et al '815.

**The Present Claims Are Patentable Over Yokoya et al '238**

As to Yokoya et al '238, this patent discloses a waterless planographic printing plate, wherein the waterless planographic printing plate comprises a laser-light-sensitive layer which constitutes a first layer provided on the support, containing a compound (A) generating an acid by irradiating an actinic light thereto, a compound (B) converting the laser light to heat and a polymer compound (C) which is decomposed by heat under an acidic condition; and a layer which constitutes a second layer having an ink repellent surface thereon. See Yokoya et al's Abstract. Applicant does not see in Yokoya et al a requirement that the first layer comprise a resin that is water-insoluble and alkali-soluble. Similarly, Applicant does not see in Yokoya et al any requirement that the second layer include a second resin that is water-insoluble and alkali-soluble.

Still further, Applicant does not see in Yokoya et al any requirement or disclosure that at least one of the layers should include an organic solvent satisfying the requirements recited in present claim 1. Referring to the broad description of Yokoya et al, there is no discussion of the solvents to be employed in the respective layers. In the working examples beginning at col. 47 of Yokoya et al, it appears that tetrahydrofuran, heptane and methylisobutylketone were employed as solvents. Applicant does not see any disclosure of  $\gamma$ -butyrolactone as indicated by the Examiner, nor does Applicant see any disclosure or discussion of any of the other solvents listed in the first full paragraph on page 11 of the present specification. And while not necessary to distinguish Yokoya et al, it is noted that claim 1 has been amended to specify that the recited

solvent(s) are selected from N-methylpyrrolidone, N,N-dimethylacetamide and dimethylsulfoxide.

Based on these distinctions, the present claims are submitted to be patentable over Yokoya et al '238. Yokoya et al '238 does not disclose or render obvious the lithographic printing plate precursor of the present invention.

**The Present Claims Are Patentable Over Shimazu et al WO '097**

Shimazu et al does not anticipate or render obvious the present claims. Shimazu et al discloses a thermal lithographic printing plate which can be imaged by thermal energy, typically by imagewise exposure with an infrared emitting laser, a thermal printing head, etc. The plate is made up of a hydrophilic substrate, and a composite layer structure composed of two layer coatings. See Shimazu et al's Abstract. Shimazu et al is different from the lithographic printing plate precursor of the present invention because the so-called "first layer" of Shimazu et al is composed of a polymeric material which is soluble or dispersible in an aqueous solution having a pH of about 6 or greater, that is, in a slightly acidic, neutral or alkaline aqueous solution. See Shimazu et al at page 5, lines 8-12. In contrast, the first resin employed in the first layer of the present invention is water-insoluble. See present claim 1.

Second, Applicant does not see in Shimazu et al any disclosure or suggestion of solvents which would satisfy the requirements recited in present claim 1. The solvents which may be employed to coat Shimazu et al's first layer are disclosed at page 8, lines 3-5 of Shimazu et al. Suitable coating solvents for coating the second layer are disclosed at page 8, lines 6-11 of Shimazu et al. These solvents do not appear to satisfy the requirements of the present claims.

In view of these differences, the present claims are patentable over Shimazu et al WO '097.

**The Present Claims Are Patentable Over Nakamura et al EP '246**

Nakamura et al discloses a positive planographic printing original plate which enables direct plate-making using a solid or semiconductor laser. The plate includes a first layer which contains a polymer that is insoluble in water and soluble in an alkali solution, and a second layer which contains an infrared radiation absorber and a binder, which "is not penetrative into an alkali developing solution containing an organic compound having a buffering effect and a base as principle components, and which is increased in solubility in an alkali developing solution by action of one of light and heat." The layers are sequentially provided on a support. See Nakamura et al's Abstract.

Nakamura et al does not disclose or fairly suggest the use of the specific organic solvent(s) called for in the present invention, namely, solvents which have a boiling point of not less than 150°C and a dipole moment of not less than 3.50 debye, selected from N-methylpyrrolidone, N,N-dimethylacetamide and dimethylsulfoxide. Nakamura et al discloses at paragraph 0126 a broad genus of solvents which includes, among many others, the three solvents recited in present claim 1, but there is nothing in Nakamura et al which would motivate one of ordinary skill to employ the specific subgenus of solvents recited in present claim 1.

Turning to the working examples of Nakamura et al,  $\gamma$ -butyrolactone was used as a solvent in the formation of the first and second layers in Example 1 at page 18 of Nakamura et al. Applicant notes that  $\gamma$ -butyrolactone has been excluded from present claim 1, in the present Amendment.

With regard to present claim 2, Nakamura et al does not disclose or render obvious the method of present claim 2. This method requires that a particular solvent be employed in coating the first layer, and that a different solvent not containing the first solvent be employed in coating the second layer. This is in contrast to Example 1 (and the other examples) of Nakamura et al, in which  $\gamma$ -butyrolactone was used in coating both layers. There does not appear to be anything in Nakamura et al which discloses or suggests using the specific different solvents in the specific manner called for in method claim 2. Still further, new claim 4 (which depends from claim 2) recites that the solvent(s) is selected from N-methylpyrrolidone, N,N-dimethylacetamide and dimethylsulfoxide. As discussed, Nakamura et al does not disclose or fairly suggest this particular subgenus of three solvents.

As to new, independent claim 3, this claim expressly recites that the first layer includes the solvent(s) having a boiling point of not less than 150 °C and a dipole moment of not less than 3.50 debye, whereas the second layer does not contain the organic solvent having a boiling point of not less than 150 °C and a dipole moment of not less than 3.50 debye. Claim 3 distinguishes Nakamura et al EP '236 for at least the reason that Nakamura et al EP '236 does not disclose or suggest this requirement of present claim 3. In this regard, the Examiner will kindly turn to the working examples of Nakamura et al, and note that  $\gamma$ -butyrolactone was used as a solvent in the formation of both the first and second layers in Example 1 at page 18 of Nakamura et al.

For at least these reasons, the present claims are patentable over Nakamura et al EP '246.



**Nakamura et al '152 Is Not Prior Art With Regard To The Present Invention**

In Paragraph No. 6 of the Action, claims 1 and 2 are rejected under 35 U.S.C. §102(e) as allegedly being anticipated by Nakamura et al (2004/0157152).

Nakamura et al '152 has an effective date of January 12, 2004, which is later in time than Applicant's priority date of March 26, 2003. To perfect his claim to priority and remove Nakamura et al as a reference, Applicant submits herewith a sworn English translation of his priority document. Section 112 support for the present claims in the priority document is as shown in the following chart:

Present Claim	Support in Priority Document
1	Claim 1; Page 11, lines 7-14; Examples 5-7
2	Claim 2
3	Claims 1 and 2; Page 50, line 14 to page 54, line 7; Paragraph bridging pages 54-55
4	Page 11, lines 7-14; Examples 5-7

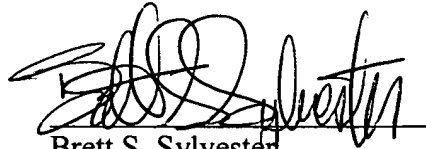
In view of the above, withdrawal of the rejection based on Nakamura et al '152 is respectfully requested.

Allowance is respectfully requested. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Amendment Under 37 C.F.R. § 1.111  
U.S. Appln. No. 10/805,261

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Brett S. Sylvester", written over a horizontal line.

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